

Southern African Psyllidae (Homoptera)—3: A new genus and new species of South African Psyllidae

by

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A new genus and species *Colophorina cassiae* and nine other new species: *Euphyllura speciosa*, *Pseudophacopteron electum*, *P. pretoriensis*, *P. caffrariensis*, *Diaphorina minor*, *D. loranthi*, *Euphalerus marginalis*, *Psylla loranthi* and *Trichochermes insleyae* are described and figured.

Agonosцена crotalariae (Petty) is discussed, with an account of the nymph, and figured.

The following descriptions and figures are based on material in the National Collection of Insects, Pretoria, where the types are deposited. All measurements are in mm.

APHALARINAE

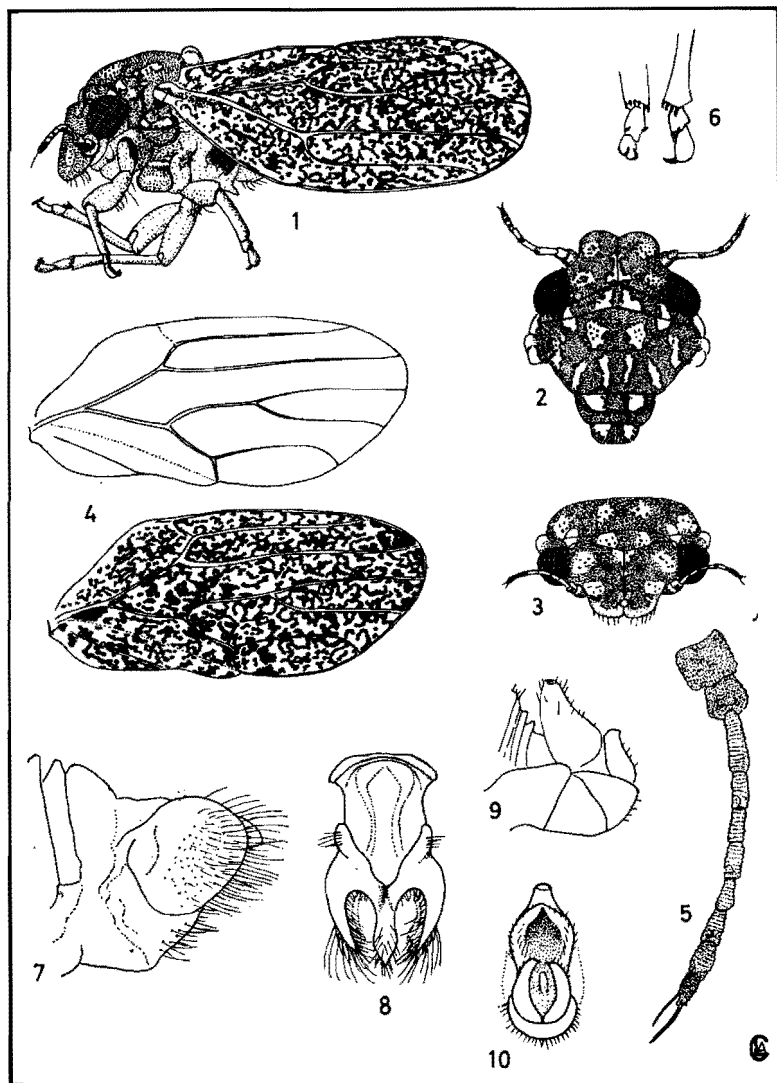
***Euphyllura speciosa* spec. nov. figs 1-10**

This species is apparently rare and appears to be solitary in its habits, as only single specimens have been taken from time to time, always on *Mimusoys zeyheri* Sond. (Moepel). The only other species of this genus recorded from South Africa is *E. longiciliata* Silvestri (1915), from which it differs in colour and habitat.

FEMALE. General colour orange, marked on head and thorax with symmetrically placed cream blotches of irregular shape which are margined and speckled with minute black dots. Genae orange or yellow, eyes blackish, ocelli reddish or succineous. Antennae pale yellowish, segments 4, 6 and 8 apically black, 9 and 10 wholly so. Fore wings sub-opaque, densely marked with dark brown scribbling and maculation; hind wings maculated on anal fold. Legs pale yellowish, hind tibiae with six small black spines apically on inner margin and a pair of similar spines on first segment of tarsus.

Head strongly deflexed, eyes recessive. Vertex twice as wide as long, excavated along posterior margin; a shallow depression in the middle of each half in the centre of which is a minute pit located about a third of the distance between the median suture and inner margin of eye; slightly depressed along posterior margin between ocelli and median suture; anteriorly strongly inwardly curving from lateral margins of genae to inner margin of eye. Genae not distinctly separated from vertex, emerging in same plane without basal suture, very short and anteriorly broadly rounded. Anterior ocellus larger than posterior pair, but due to declivity of vertex scarcely visible from above. Antenna barely as long as width of head, with rhinaria on segments 4, 6, 8 and 9.

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Figs 1–10. *Euphyllura speciosa* spec. nov. 1. Lateral aspect. 2. Head and thorax dorsal aspect. 3. Head and thorax frontal aspect. 4. Fore wing. 5. Antenna. 6. Tip of hind tibia and tarsus. 7. ♀ terminalia lateral aspect. 8. ♀ terminalia dorsal aspect. 9. ♂ terminalia lateral aspect. 10. ♂ terminalia from behind.

Thorax dorsally convex and curving forward into head, which slightly overlaps anterior margin of pronotum. Mesoscutellum strongly raised, quadrate but from lateral view apparently globular. Forewing about 2.23 times longer than wide, somewhat rhomboidal with apical margin broadly rounded; anal fold bent at right angles at anal vein, at rest the fold covers part of the dorsum.

The genitalia are peculiar in that they bear a pair of lateral sub-circular hairy flaps which conceal what lies between them and the tip of the ventral valve (fig. 7 and 8).

MALE similar to female. Terminalia with unipartite proctiger nearly twice as long as parameres, which are somewhat pincer-like (fig. 9 and 10).

Nymph unknown.

Host plant probably *Mimusops zeyheri* Sond.

MEASUREMENTS. Length: tips of genae to tips of fore wings ♂ 1.78, ♀ 1.93–2.30; vertex ♂ and ♀ 0.20; gena ♂ and ♀ 0.05; antenna ♂ 0.47, ♀ 0.52; pronotum ♂ 0.09, ♀ 0.11; fore wing ♂ 1.42, ♀ 1.52–1.70; hind wing ♂ 1.33, ♀ 1.36. Width: head ♂ 0.64, ♀ 0.70; vertex ♂ 0.36, ♀ 0.44; gena ♂ 0.12, ♀ 0.30; pronotum ♂ and ♀ 0.61; at wing bases ♂ 0.73, ♀ 0.75; fore wing ♂ 0.64, ♀ 0.70; hind wing ♂ and ♀ 0.52.

MATERIAL EXAMINED: 2 males and 25 females: ♀ holotype, 1 ♂, 5 ♀ paratypes pinned, Hartbeespoort (Hartebeestpoort old spelling), 20 May 1965 (Ac.Psy.77); 12 ♀ paratypes pinned, 6 Aug. 1965 (Ac.Psy.84); 3 ♀ paratypes pinned and 2 paratypes on slides, Rustenburg, Tvl., 20 Feb.–12 March 1965 (Ac.Psy.65), and 1 ♂, 1 ♀ paratype on slide, 29 Nov. 1971 (Ac.Psy.545), A. L. Capener.

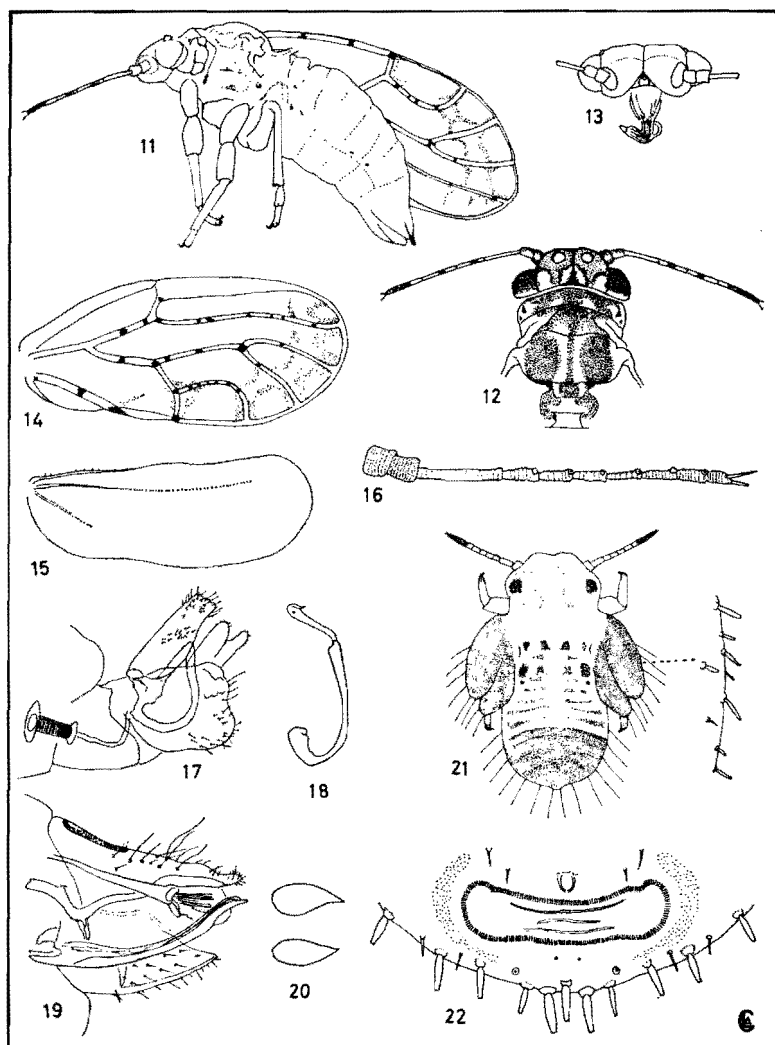
Agonoscena crotalariae (Pettey), figs 11–22

Rhinocola crotalariae Pettey, 1924, 1925

This species was originally described by Pettey from material collected by S. H. Skaife at Cedara, Natal in November 1919, and has not been recorded since. It is a widely distributed species and occurs in vast numbers. It has not been found on *Crotalaria capensis*, which was recorded as the host plant in the original description. It is common in the Transvaal and Cape Province, where it has been found on at least six species of *Rhus*, and has been collected from September to April.

A very small species, usually orange-brown on vertex and dorsum, symmetrically marked with irregular pale yellow blotches usually outlined with dark brown. Definition and intensity of these markings variable but follows same general pattern; under surface pale yellow. The abdomen may be entirely yellow to orange or marked with fuscous on tergites and sternites. In female terminalia are usually paler but the extreme tip of the dorsal plate always brownish.

Pettey provided a good description of the species which is still adequate, and there seems no reason for redescribing it. However, he did not mention the early stages on which notes are now presented. The eggs are pale yellow and sharply pointed at the apex. They are laid (on *Rhus*) amongst the flowers and young leaves, which curl and become distorted, and covered with a sticky 'honeydew'. The nymphs produce a fine whitish flocculence which is very noticeable and draws attention to their presence. At first they are entirely yellow, but in the last instar the wing buds and apical half of the abdomen are brownish (often very pale) and a small broken pattern is visible on the dorsum. The circum-anal ring is transversely elliptical with rounded extremities and is composed of slit-like pores; there is also a crescent of fine pores laterally. The abdomen



Figs 11–22. *Agonosцена crotalariae* (Petty). 11. Lateral aspect. 12. Head and thorax lateral aspect. 13. Head frontal aspect. 14. Fore wing. 15. Hind wing. 16. Antenna. 17. ♂ terminalia lateral aspect. 18. Aedeagus. 19. ♀ terminalia lateral aspect. 20. Eggs. 21. Nymph. 22. Nymph circum-anal ring and marginal setae.

and margins of wing-pads bear secta-setae which give rise to long white filaments which are easily broken off.

MEASUREMENTS. The following measurements of adults supplement those given by Petty: Length: front of vertex to tip of wing ♂ 1,47–1,61, ♀ 1,52–1,82; fore wing ♂ 1,11–1,27, ♀ 1,38–1,42; vertex ♂ and ♀ 0,12–0,15; antenna ♂ 0,52–0,53, ♀ 0,53–0,58; pronotum ♂ and ♀ 0,05–0,09. Width: head ♂ 0,39–0,42, ♀ 0,39–0,44; vertex ♂ 0,24–0,26, ♀ 0,26–0,27; pronotum ♂ 0,36, ♀ 0,38–0,41; at wing bases ♂ 0,42–0,47, ♀ 0,46–0,50; fore wing ♂ 0,50–0,56, ♀ 0,53–0,59.

Recorded from the following localities: *Transvaal*: Pretoria (Sept., Oct., Dec., March); Hennops River (Nov.); Near Cullinan (Dec.); Pienaars Poort (Feb.); Elands-hoek (Nov.) Ofcolaca (Sept.). *Orange Free State*: Bloemfontein (April, Sept.). *Cape Province*: Kieskama Hoek, King William's Town (March); Steytlerville (Feb.); Kruisvallei (Feb.); Tradouw Pass, Near Swellendam (Jan.).

The following host plants have been recorded: *Rhus* sp., *R. lancea* L.f (most frequent), *R. legatii* Schonb., *R. macowaini* Schonb., *R. pentheri* Zahlr., *R. refracta* Eckl. & Zeyh., *R. zeyheri* Sond., and *Azima tetracantha* Lam.

COLOPHORINA gen. nov.

Near *Colposcencia* Enderlein (1929) but differing in venation of fore wing, absence of a nodal break, and unipartite male proctiger.

Head vertical, wider than pronotum and narrower than mesonotum; vertex nearly twice as wide as long; genae vertical, rather short, about twice as wide as long, contiguous almost to tips and anteriorly broadly rounded. Antennae slender, a little longer than width of head with small rhinaria on segments 4, 6, 8 and 9. Eyes very slightly recessive, anterior ocellus visible only from front.

Meso-prescutum and mesoscutum convex, scutellum convex and a little raised. Fore wings somewhat convex, slightly more than twice as long as wide, without nodal break, with a distinct pterostigma, veins strong, R 1 sinuate and curving upwards to subcostal margin at tip, M strongly sinuate, M 1+2 and 3+4 rather short. Hind tibiae with four apical black spines and a pair of similar spines on first segment of tarsus, meracanthus robust.

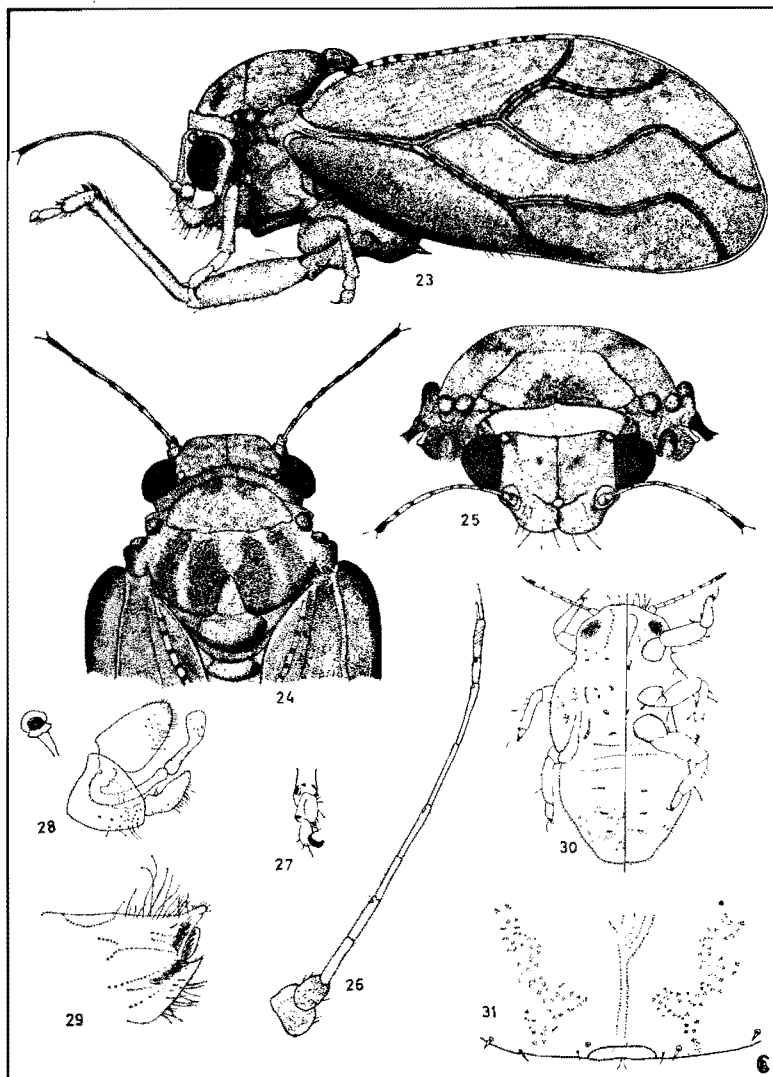
Male with unipartite proctiger, parameres about two thirds its height, aedeagus robust.

Colophorina cassiae spec. nov. figs 23–31

FEMALE. Uniform chestnut brown devoid of markings or with a pair of indistinct slightly darker longitudinal stripes on mesoscutum on each side of median line. Fore wings brownish with a sepia tinge and subcostal margin dark brown, veins irregularly spotted with black. Antenna pale brownish with segments 9 and 10 black. Legs slightly paler than general body colour. Eyes black, ocelli castaneous.

Head as in generic description. Vertex with a few scattered hairs, a very shallow depression medially in each half but without distinct pit, median and genal sutures weak, genae somewhat convex with several long anterior setae; posterior margin concave and slightly overlapping prothorax. Posterior ocelli inconspicuous.

Thorax strongly convex and apparently devoid of pubescence. Fore wings with prominently raised veins without pilosity. Hind wings about 2,6 times longer than wide, with about fifteen small setae at base of anterior margin, veins strong. Abdomen sloping



Figs 23-31. *Colophorina cassiae* gen. et spec. nov. 23. Lateral aspect. 24. Head and thorax dorsal aspect. 25. Head and thorax frontal aspect. 26. Antenna. 27. Tip of hind tibia and tarsus. 28. ♂ terminalia lateral aspect. 29. ♀ terminalia lateral aspect. 30. Nymph. 31. Nymph circum-anal ring and pores.

steeply to genital armature. Terminalia with ventral valve distinctly shorter than dorsal valve and sharply pointed apically.

MALE similar to female but black, with fore wings blackish and legs brown; hind tibiae and all tarsi yellowish. Antennae yellowish with black tips. Ocelli succineous to red. Terminalia from lateral aspect with proctiger somewhat pear-shaped, rounded apically, aedeagus robust with termination of second segment club-like; parameres notched at basal third anteriorly, posterior margin curving outwards, tapering apically and curving inwards, the points touching.

MEASUREMENTS. Length: front of vertex to wing tips ♂ 2,42–2,54, ♀ 2,72–3,17; fore wing ♂ 1,81–1,96, ♀ 2,39–2,51; vertex ♂ 0,27, ♀ 0,30; gena ♂ 0,09–0,12; antenna ♂ and ♀ 0,79–0,94. Width: head ♂ 0,72–0,76, ♀ 0,74–0,78; vertex ♂ 0,42–0,45, ♀ 0,49; gena ♂ and ♀ 0,15–0,18; pronotum ♂ 0,64, ♀ 0,73; at wing bases ♂ 0,97–0,06, ♀ 1,15; fore wing ♂ 0,87–0,97, ♀ 1,18–1,23.

Nymphs yellowish with small pale brownish markings on dorsum (as in figure 30), wing pads and tip of abdomen pale brownish; eyes reddish to brown, tips of antennae and tips of tarsi brownish. Circum-anal ring at extremity of abdomen, margin of abdomen and wing pads fringed with short setae. The nymphs live and develop between pairs of unopened leaflets which form a globular pouch, and are covered with fine wax particles which also line the inside of their domain. Globules of liquid excreted by the nymphs are also covered with a thin film of these particles, and only spread as a fluid when in contact with a non-waxy surface, and the habitat consequently remains unfouled. The nymphs are preyed upon by a syrphid fly (*Baccha* sp.).

Host plant *Cassia petersiana* Bolle.

MATERIAL EXAMINED: ♀ holotype, 48 ♂, 57 ♀ and nymphs as follows: holotype, 36 ♂, 33 ♀ pinned, 1 ♂, 1 ♀ paratype and nymphs on slides, Nelspruit, E. Tvl., 8 Feb. 1966, P. Paliatseas (Ac.Psy.167); 7 ♂ 22 ♀ paratypes pinned, 1 ♀ paratype and nymphs on slides, Moketsi, N. Tvl., 16 April 1965, P. Paliatseas (Ac.Psy.81), and 4 ♂ 1 ♀ paratypes pinned, nymphs on slide, Elandshoek, E. Tvl., 8–13 March 1967, A. L. Capener (Ac.Psy.218). 10 ♂ and 10 ♀ (plus spirit material) were taken at Noordkaap, E. Tvl., 12 Jan. 1972, A. L. Capener (Ac.Psy.575) but these are not included in the type series, nor are 37 specimens from Nelspruit (Ac.Psy.167).

CIRIACREMINAE

Pseudophacopteron electum spec. nov. figs 33–44

No species of *Pseudophacopteron* Enderlein (1921) have hitherto been recorded from South Africa. The present species differs from *Pseudophacopteron zimmermanni* (Aulman) the type of the genus (fig. 32) in the pear-shaped fore wing with longer veins M 1+2 and 3+4, and the infuscation on both sides of Cu 2.

FEMALE. Ground colour pale creamy yellowish marked with brownish orange and black. Posterior margin of head black. Vertex with a creamy median line, laterally pale brownish orange, antennal sockets margined with black. First and second segments of antenna anteriorly brown to black, segments 4 to 8 slightly fuscous apically, 9 and 10 entirely black, terminal bristles white. Eyes brown, ocelli pink. Pronotum brownish orange with anterior margin black, a pair of small creamy convexities laterally behind each eye. Meso-prescutum brownish orange, anteriorly black, laterally finely margined

with black, posteriorly with a median creamy spot. Mesoscutum brownish orange with a creamy median stripe, behind meso-prescutum laterally a brown or black longitudinal stripe, lateral angles creamy; scutellum cream; axillary sclerites creamy; sclerites on sides of thorax black. Legs pale yellow with basal segments black. Abdomen pale yellow, first two segments dorsally white, third to sixth dorsally orange; tergites laterally black with a black quadrate spot below, spiracles brownish; sternites 4–7 black, terminalia black.

Head slightly wider than thorax. Vertex rounded down, more than twice as wide as long, without median suture, medially longitudinally raised and slightly similarly raised between this and the eyes; genae obscure; laterally below antennal sockets an angular projection; frons distinct. Antenna very slightly longer than width of head, rhinaria on segments 4–9, segment 3 slightly indented on inner side, segments 4–9 expanding slightly apically, terminal bristles three times as long as segment 10. Eyes very slightly recessive; ocelli large, anterior ocellus only visible from front.

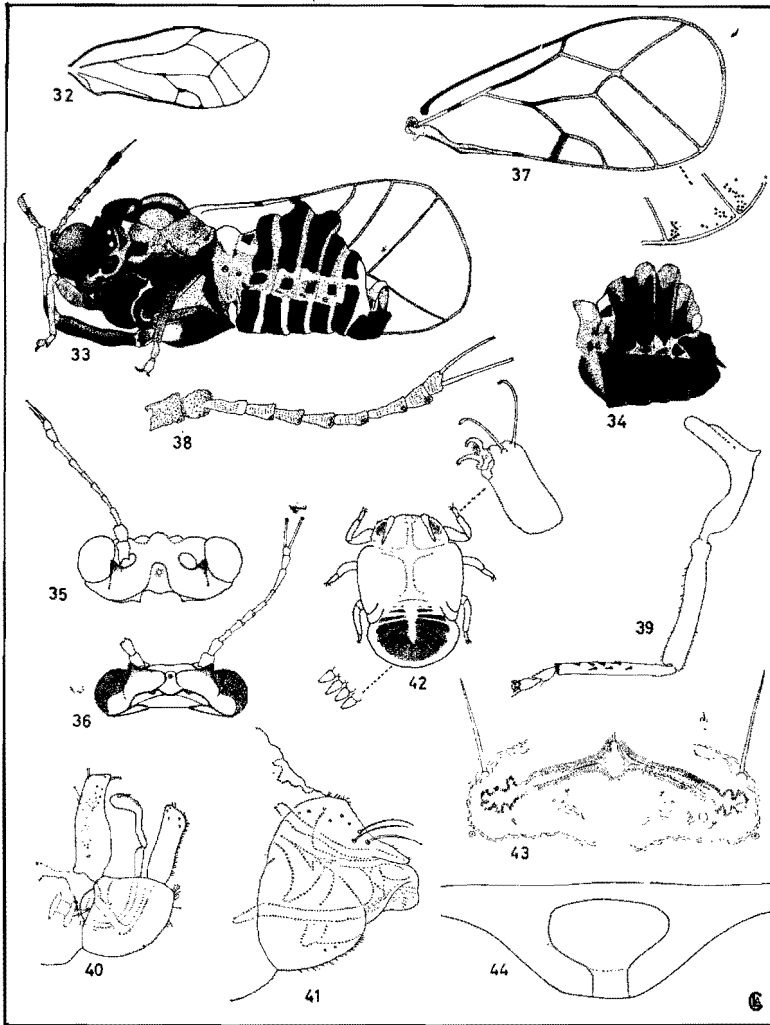
Pronotum with small convexities instead of usual depressions behind eyes. Meso-prescutum, mesoscutum and scutellum convex. Fore wings somewhat pear-shaped and apically truncately rounded, clear hyaline with blackish infuscation full length of Cu 2 on both sides of vein and two black spots on anal vein. The subcosta black with a nodal break before intersection of R 1; without pterostigma; M 1+2 and 3+4 a little longer than R; R + M + Cu black medially, R black for basal two thirds; black at fork of M + Cu. At margin adjacent to M 1+2 and 3+4 are a series of what appear to be minute discs. Hind wings indistinctly veined, with three small setae at base of costal vein. Hind leg with meracanthus short, acute and pale yellowish; hind tibia slightly constricted in middle, apically fringed with very fine hairs, first segment of tarsus apically pointed but without spines.

Abdomen prominently dorsally swollen on fourth and fifth segments. Terminalia with dorsal valve inclined downwards, apically pointed and overlapping rounded ventral valve.

MALE similar to female but darker, almost black. Terminalia with proctiger unipartite, narrow from lateral aspect, a little longer than parameres; aedeagus apically somewhat club shaped; parameres about three times longer than wide, about parallel sided, apically obliquely truncate with a blunt tooth at apex on inner surface.

MEASUREMENTS. Length: front of vertex to wing tips ♂ 1,67–1,80, ♀ 1,90–1,93; fore wing ♂ 1,30–1,38, ♀ 1,50–1,53; vertex ♂ 0,12, ♀ 0,12–0,14; antenna ♂ 0,52–0,58, ♀ 0,64; pronotum ♂ and ♀ 0,05. Width: head ♂ 0,50–0,52, ♀ 0,50–0,58; vertex ♂ 0,27–0,30, ♀ 0,27–0,32; pronotum ♂ 0,33–0,35, ♀ 0,41–0,44; at wing bases ♂ 0,47, ♀ 0,49–0,58; fore wing ♂ 0,61–0,68, ♀ 0,71–0,79.

The eggs, which are yellowish, elongate, pointed anteriorly and rounded posteriorly, with a very short stalk, rest in close contact with the leaf surface. They appear to be laid indiscriminately on the upper and lower surface of the leaf, but are more abundant on the upper surface and are most commonly placed on either side of the median vein. When they are situated away from a major vein a shallow depression forms under the egg, but this does not appear to assist the nymph in any way, for on emergence it wanders away from the egg-shell and always migrates to the under surface of the leaf. Here it establishes itself and sinks below the surface as a pit-gall forms around it, but it is fully exposed dorsally until it becomes almost entirely enclosed by gall tissue. Until this happens it is very vulnerable to predators, among which a small mite appears to take a heavy toll. It is also devoured by chrysopid larvae and many exuviae have been found on the leaf surface and in the minute pits.



Figs 32-44. *Pseudophacopteron* spp. 32. *Pseudophacopteron zimmermanni* (Aulmann) fore wing (after Aulmann). 33-34. *Pseudophacopteron electum* spec. nov. 33. ♂ lateral aspect. 34. ♀ abdomen. 35. Head frontal aspect. 36. Head from below. 37. Fore wing. 38. Antenna. 39. Hind leg. 40. ♂ terminalia lateral aspect. 41. ♀ terminalia lateral aspect. 42. Nymph. 43. Nymph circum-anal ring. 44. Section through gall.

As development proceeds the gall assumes a pimple-like shape (always on the under surface of the leaf) with a small round aperture at the apex, into which the nymph, having assumed a 'cocktail' position, thrusts its exuviae as a plug. The first two instars appear to be entirely yellow, but from the third onwards the dorsal surface of the abdomen gradually becomes slightly pigmented with dark brown to black. In the last instar it is pale yellow with the abdomen except for its margin, black. It is very strongly convex ventrally and the dorsal surface is flat with the abdomen held in a vertical position and fringed with inverted pear-shaped secta-setae which produce long white filaments. The circum-anal ring is of unusual shape (fig. 43). A peculiarity of the nymph is that the antennae, which are basally thick and taper gradually, are carried straight over the head adjacent to the inner margins of the eyes and almost reach the posterior margin. The setae at the end of the tarsi are apically hooked.

As the nymph reaches maturity the aperture at the peak of the gall cracks crosswise and the points tend to curl outwards; if it were not for this the inmate would remain enclosed. The nymph emerges backwards and rests on the top of the gall; then the cuticle splits along the median line of the head and thorax and the adult crawls out. The upper surface of the infested leaves becomes blotched with purplish brown and there is a slight convexity over the site of the gall which remains green.

Host plant *Ekebergia capensis* Sparr.

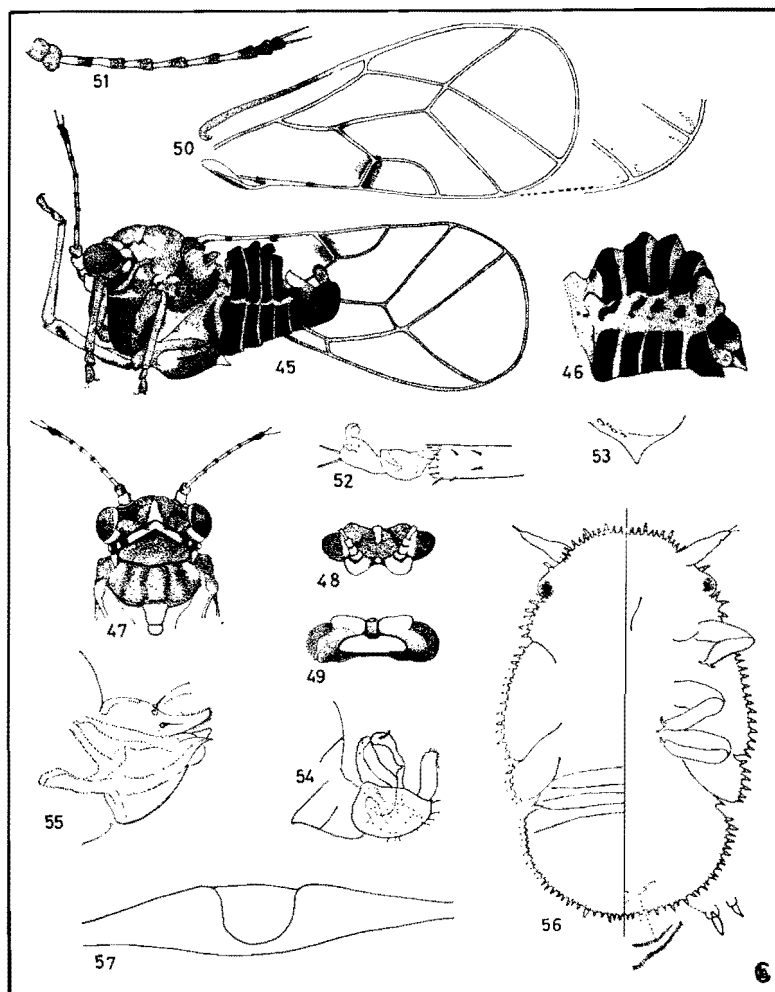
MATERIAL EXAMINED: ♀ holotype, 13 ♂ and 11 ♀ paratypes pinned, 11 ♂ and 9 ♀ paratypes and 7 nymphs on slides, plus about 150 specimens of each sex and nymphs in alcohol, 12 Sept. 1972, Pretoria North, A. L. Capener (Ac.Psy.619).

***Pseudophacopteron pretoriensis* spec. nov. figs 45-57**

Similar to the last species but differing in the infuscation of Cu 2, the paler colouring, the shape of the female terminalia and the different nymph and gall formation.

FEMALE. Basic colour cream to pale yellow marked with orange-brown and black. Vertex orange-brown with a basal median triangle of pale yellow, antennal sockets and frons margined with dark brown to black, posterior margin black. Antenna with base of second segment anteriorly brown, succeeding segments apically brown, ninth and tenth black. Eyes brown, ocelli pink. Pronotum orange-brown, anterior margin black, three cream spots dorsally and two raised cream spots behind each eye. Mesoprescutum orange-brown, anterior margin black, usually with a faint cream median line expanding into a triangle posteriorly. Mesoscutum orange-brown with a cream median stripe margined laterally by a pair of brownish stripes and laterally with a cream spot above wing bases. Sides of thorax orange-brown marked with dark brown. Legs pale yellowish. Abdomen pale yellow with broad transverse brown bands on tergites 3 to 6, similar brown bands on sternites and large brown spots containing spiracles on pleurae. Terminalia brown with tips of dorsal and ventral valves black, sometimes ventral valve entirely black.

Head distinctly wider than thorax, eyes not recessive. Vertex rounded down, more than twice as wide as long, without median suture, medially longitudinally raised with a slight adjacent anterior swelling; frons quadrate; posterior margin weakly concave; ventrally with a slight lateral projection at base of antennal sockets, somewhat less acute than in *P. electum*. Antennae slightly longer than width of head, segments 1 and 2 about equal in size, 3 parallel sided, 4 to 9 slightly expanded apically, bearing rhinaria,



Figs 45-57. *Pseudophacopteron pretoriensis* spec. nov. 45. ♂ lateral aspect. 46. ♀ abdomen. 47. Head and thorax dorsal aspect. 48. Head frontal aspect. 49. Head from below. 50. Fore wing. 51. Antenna. 52. Tip of hind tibia and tarsus. 53. Meracanthus. 54. ♂ terminalia. 55. ♀ terminalia. 56. Nymph. 57. Section through gall.

their apical thirds brownish, 9 and 10 entirely black, terminal bristles white, not quite as long as segment 8. Anterior ocellus visible from front and below.

Pronotum with a pair of convex swellings behind eyes. Fore wings similar to *P. electum* but with infuscation of Cu 2 on anal side of vein not reaching margin (this feature is constant); two black spots on anal vein; veins pale yellow without dense

pigmentation. The pattern of minute discs in the M 1+2, 3+4 area more sparse than in *P. electum*. Legs similar to *P. electum*. Abdomen with humps of fourth and fifth segments somewhat less prominent than in *P. electum*; terminalia with dorsal valve longer than ventral valve with two long setae medially below anal ring and one somewhat shorter on each side.

MALE similar to female but slightly darker. Terminalia similar to *P. electum* but parameres rounded apically.

MEASUREMENTS. Length: front of vertex to wing tips ♂ 1,56–1,84, ♀ 1,82–2,00; fore wing ♂ 1,24–1,50, ♀ 1,47–1,60; antenna ♂ and ♀ 0,59–0,61; vertex to frontal margin (from above) ♂ and ♀ 0,09–0,11; pronotum ♂ and ♀ 0,03. Width: head ♂ 0,42–0,46, ♀ 0,46–0,49; vertex ♂ 0,24–0,46, ♀ 0,24–0,29; pronotum ♂ and ♀ 0,35–0,36; at wing bases ♂ 0,41, ♀ 0,47–0,49; fore wing ♂ 0,56–0,58, ♀ 0,70.

Nymph, last instar. Pale yellow without darker markings, eyes red. The antennae are carried in the normal position at right angles to the body axis. Dorsal surface flat, ventral surface strongly convex. The galls are pit-like, formed on the upper surface of the leaves, and the dorsum of the nymph is fully exposed. The lateral angles of the circum-anal ring are directed forward.

Host plant *Harpephyllum caffrum* Bernh.

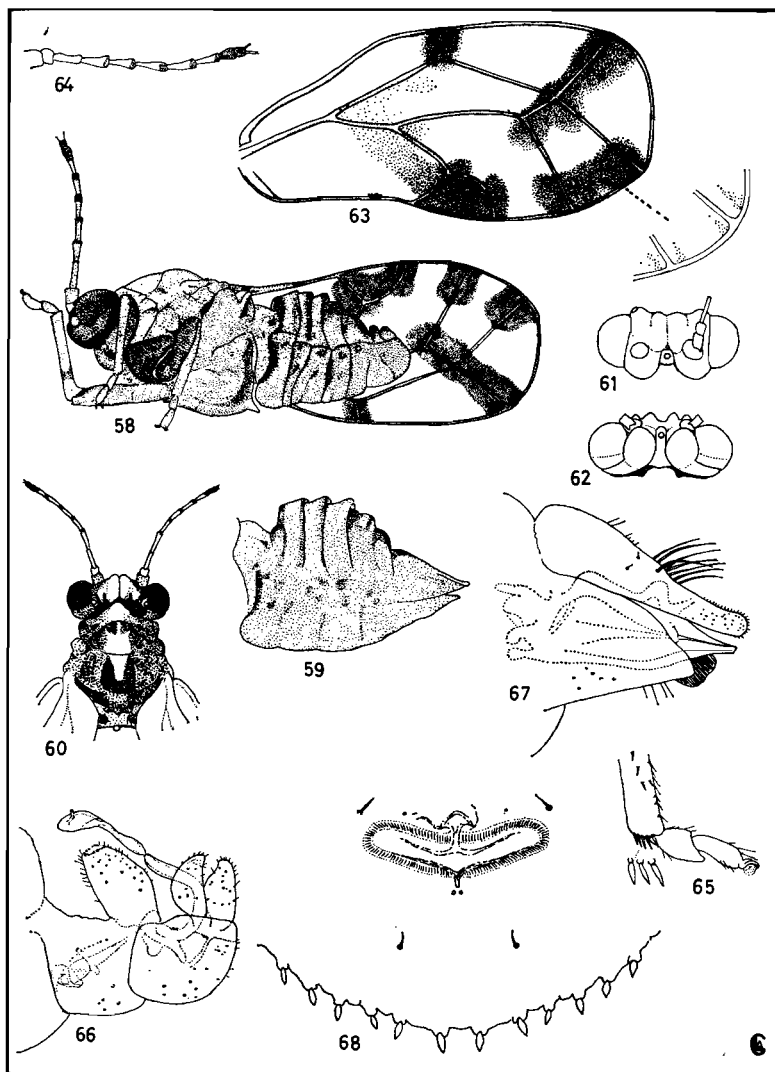
MATERIAL EXAMINED: ♀ holotype, 16 ♀ and 19 ♀ paratypes pinned, 16 ♂ and 12 ♀ paratypes and nymphs on slides, Groenkloof Park, Pretoria, 13 Oct. 1965, A. L. Capener (Ac.Psy.118); 1 ♀ and 3 ♂ paratypes and 4 nymphs on slides, same locality and collector, 13 Sept. 1972 (Ac.Psy.620) and 7 ♂, 4 ♀ paratypes pinned, 17 ♂, 31 ♀ and nymphs in alcohol, Waterkloof Ridge, Pretoria, 20 Oct. 1971, H. D. Catling (Ac.Psy. 508).

***Pseudophacopteron caffrariensis* spec. nov. figs 58–68**

This species may be immediately distinguished from the two preceding by the fore wings which are marked with large brown areas.

FEMALE. General colour pale yellowish with orange-brown on thorax and darker brown markings on abdomen. Vertex pale yellow shading to orange-brown laterally, posterior margin black; eyes brownish, ocelli pink. Antennae pale yellow with tips of segments 4 to 8 dark brown and 9 and 10 entirely so. Pronotum pale yellow shading laterally to orange-brown; base of meso-prescutum and a broad median stripe on scutum pale yellow; thorax laterally and ventrally, legs and abdomen pale yellow. Anterior margins of tergites narrowly brownish, segments 6 to 8 wholly brown on mid-dorsal area; spiracles brown and a brown spot above fourth to sixth; sternites entirely pale yellow except for a small brown spot laterally on third to sixth; terminalia yellowish. Fore wings with large brown areas as in fig. 63, and two black spots on anal vein.

Head wider than pronotum, almost as wide as thorax at wing bases, posteriorly somewhat concave. Vertex rounded down, slightly less than twice as wide as long, median suture rather obscure dividing a longitudinal median elevation, at base of which in each half is a small black fovea close to posterior margin; in the lateral angles is a prominence in which is set the posterior ocelli. Eyes not recessive; anterior ocellus rather large, visible from front and below; frons quadrate. There is a slight swelling below the antenal sockets which is not laterally angulate and is less prominent than in



Figs 58–68. *Pseudophacopteron cafrariensis* spec. nov. 58. ♂ lateral aspect. 59. ♀ abdomen. 60. Head and thorax dorsal aspect. 61. Head frontal aspect. 62. Head from below 63. Fore wing. 64. Antenna. 65. Tip of hind tibia and tarsus. 66. ♂ terminalia. 67. ♀ terminalia. 68. Undetermined nymph, circum-anal ring and seta-setae.

the two preceding species. Antenna slightly longer than width of head, segments 4 to 9 slightly wider at apices than bases, terminal bristles no longer than second segment.

Pronotum weakly chevron-shaped from dorsal aspect, somewhat raised medially with a pair of small depressions behind each eye. Meso-prescutum and mesoscutum rather weakly convex. Fore wings about twice as long as wide; M 1+2 and 3+4 almost as long as R, a few minute spinules from margin on each side of these two veins. There are two dark spots on M 1+2 and 3+4, one on Rs at its bend to the apical margin, one at the end of M and two on Cu 1. Venation of hind wing indistinct. Hind leg with coxa brownish, meracanthus small, yellowish, femur apically suffused with brownish, tibia with a small brownish spot at base on inner surface and with a comb of fine setae apically, first segment of tarsus without spines. Abdomen with dorsal swelling of segments 5 and 6 weak, terminalia tapering apically with dorsal valve slightly longer than ventral.

MALE similar to female. Tips of proctiger and parameres brown to blackish. From lateral aspect the proctiger is widest in its lower third and apically truncate; the parameres are a little shorter and curve inwardly to a point; aedeagus apically bulbous.

MEASUREMENTS. Length: front of vertex to wing tips ♂ 1.84–1.90, ♀ 2.17; fore wing ♂ 1.29–1.44, ♀ 1.66–1.74; vertex ♂ and ♀ 0.15–0.18; pronotum ♂ 0.06–0.08, ♀ 0.09–0.11; antenna ♂ 0.65–0.74, ♀ 0.67–0.76. Width: head ♂ and ♀ 0.52; vertex ♂ and ♀ 0.27–0.29; pronotum ♂ 0.38–0.42, ♀ 0.41–0.47; at wing bases ♂ 0.52–0.59, ♀ 0.53–0.61; fore wing ♂ 0.62–0.65, ♀ 0.76–0.82.

Host plant *Pappea capensis* (Spreng.) Eckl. & Zeyh.

No traces of galls were found when the specimens were collected and nothing is known of the early stages. Two free-living nymphs were found (fig. 68), but are believed not to be associated with this species.

MATERIAL EXAMINED: ♀ holotype, 8 ♂, 20 ♀ paratypes, 5 ♂, 7 ♀ paratypes on slides and 5 ♂, 16 ♀ in alcohol, Steytlerville, C.P., 16 Feb. 1966, A. L. Capener (Ac.Psy. 158).

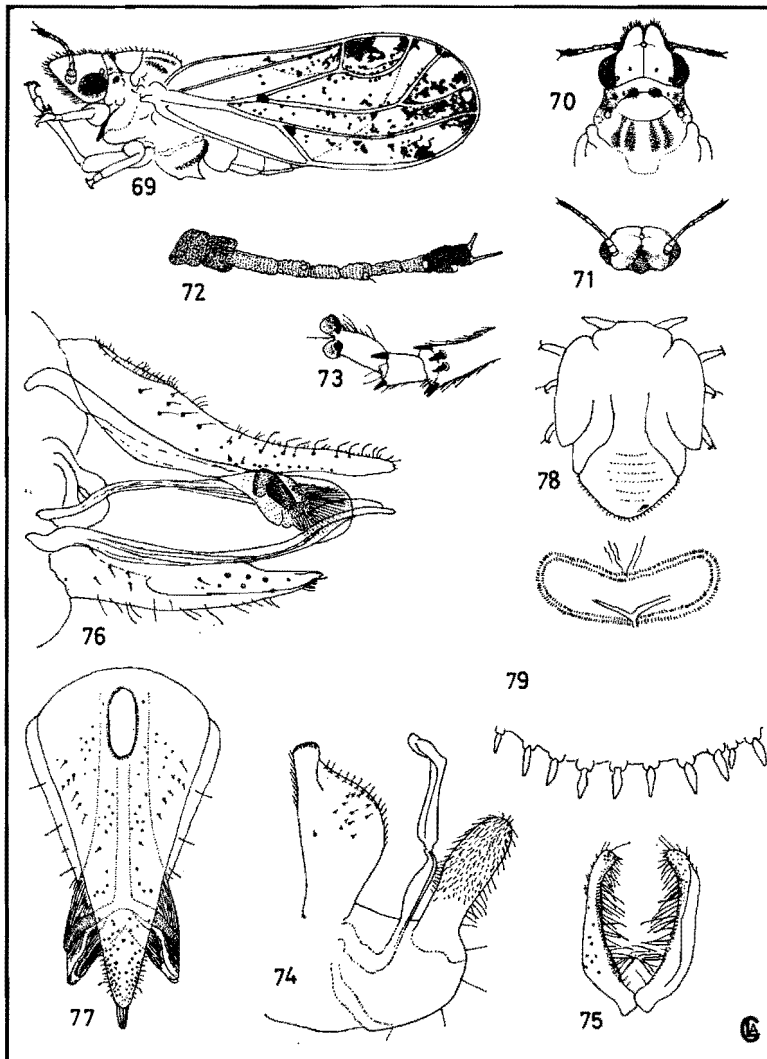
PSYLLINAE

Diaphorina minor spec. nov. figs 69–79

Nearest to *D. helichrysi* Capener (1970). Differing in the pattern of the fore wings which are not milky white and lack the dark central maculation.

FEMALE. General colour pale yellowish with pale brownish markings, sometimes obscure. First two segments of antenna pale brownish, ninth and tenth black. Eyes blackish, ocelli pinkish orange. A pale brownish spot on pronotum and meso-prescutum on each side of median line and a pair of pale brownish longitudinal stripes on mesoscutum lateral of median line. Fore wings speckled with brownish as in fig. 69, with a small black spot at intersection of Rs and R1 and a similar spot at junction of M and Cu. Metatibial and metatarsal spines black. Tergites with a narrow pale transverse band on their anterior margins, spiracles encircled by a small brownish spot; tips of upper and lower valves of terminalia dark brown.

Head slightly wider than pronotum, with short sub-erect pubescence, concave on posterior margin. Vertex about horizontal, weakly convex, about twice as wide as long at median suture, a small shallow depression medially in each half and a little



Figs 69–79. *Diaphorina minor* spec. nov. 69. Lateral aspect. 70. Head and thorax dorsal aspect. 71. Head frontal aspect. 72. Antenna. 73. Tip of hind tibia and tarsus. 74. ♂ terminalia. 75. Parameres from behind. 76. ♀ terminalia lateral aspect. 77. ♀ terminalia dorsal aspect. 78. Nymph. 79. Nymph circum-anal ring and marginal setae.

anterior of posterior ocelli. Eyes not recessive; anterior ocellus clearly visible from above and a little larger than posterior ocelli. Genal cones about as long as wide at bases, contiguous and only divergent at rounded apices. Antenna shorter than width of head, with rhinaria on segments 4, 6, 8 and 9.

Pronotum very slightly narrower than width of head, anterior margin rounded and weakly sinuate, posterior margin slightly concave, a pair of small depressions on each side, the larger behind the eye and the smaller behind the ocellus. Meso-prescutum and mesoscutum convex, axillary sclerites sub-hemispherical, the anterior largest. Fore wings about 2,4 times longer than wide, the marginal hairs of the veins much shorter than in *D. helichrysi*. Legs normal, metatibia with seven apical spines and the first tarsomere with a pair of small spines. Abdomen normal, dorsal plate of terminalia longer than ventral valve, narrowed and pointed to tip which bears short erect hairs; ventral valve weakly curved in profile, sparsely setose, apically pointed.

MALE similar to female, proctiger from lateral aspect less broadly rounded posteriorly than in *helichrysi*.

MEASUREMENTS. Length: tips of genal cones to wing tips ♂ 1,82, ♀ 1,87–2,02; fore wing ♂ 1,39–1,44, ♀ 1,59; vertex ♂ and ♀ 0,12; gena ♂ and ♀ 0,06; antenna ♂ 0,33, ♀ 0,36. Width: head ♂ 0,43, ♀ 0,45; vertex ♂ 0,26, ♀ 0,26–0,28; gena ♂ and ♀ 0,07; pronotum ♂ 0,35–0,41, ♀ 0,39–0,42; at wing base ♂ 0,49, ♀ 0,53; fore wing ♂ 0,52–0,56, ♀ 0,61–0,65.

Nymph, last instar, pale yellow without markings. Circum-anal ring similar to *D. helichrysi*.

Host plant *Helichrysum* sp.

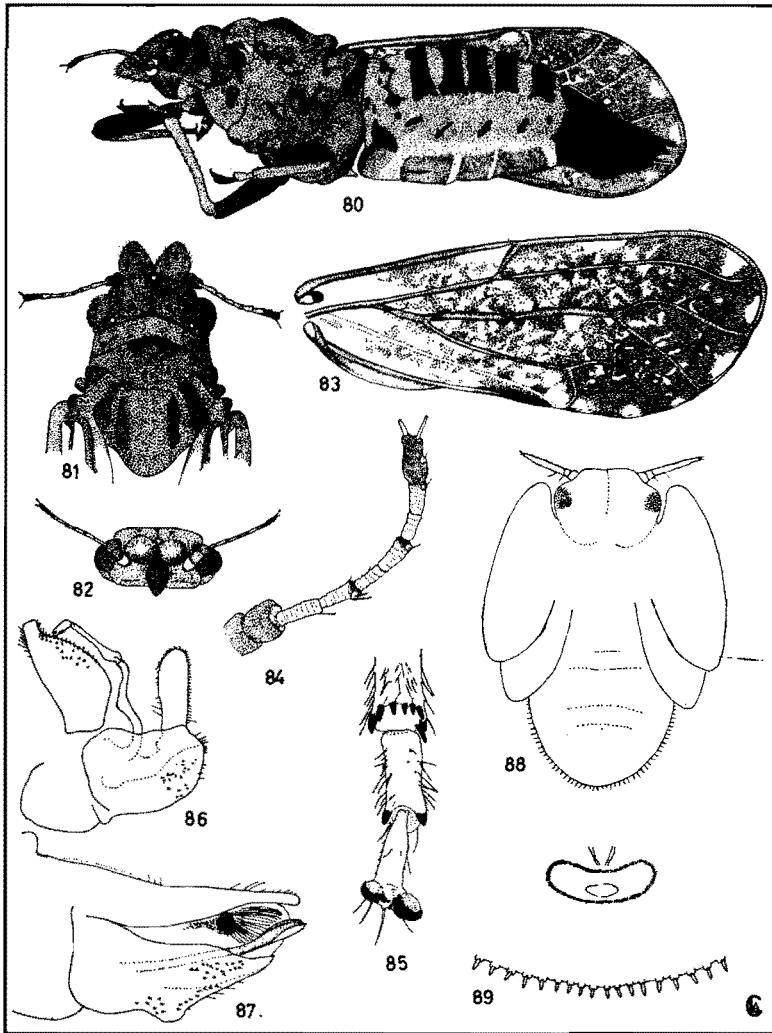
MATERIAL EXAMINED: ♀ holotype, 26 ♂, 33 ♀ paratypes pinned, 7 ♂, 7 ♀ paratypes and one nymph on slides, plus 3 ♂, 4 ♀ in alcohol, Rustenburg, Tvl., 24–29 Nov. 1971, A. L. Capener (Ac.Psy.543).

***Diaphorina loranthi* spec. nov. figs 80–89**

Nearest to *D. natalensis* (Pettey, 1924) from which it differs in the smaller swelling on the ventral valve of the female terminalia and in the aedeagus of the male.

FEMALE. Dark brown to black on thorax, abdomen orange-brown with dark brown to black markings; in dry specimens, due to contraction, the lighter colour is largely obscured. Head brown, antennae pale yellow with segments 1 and 2 brown, tips of 4, 6 and 8 dark brown to black, 9 and 10 entirely black, terminal bristles whitish. Eyes dark brown, ocelli succineous. Pronotum brown, darker laterally, meso-prescutum brown with two dark adjacent lunate spots in middle at anterior margin; mesoscutum brown with a pair of broad blackish longitudinal stripes on each side of median line. Fore wings densely covered except at basal sixth with irregular brown markings maculated with fine black spots, a clear lunate area at apical margin in each cell and two in cell between Cu 1 and 2. Wing pattern fig. 83. Veins yellowish brown. Legs basally brown, tibiae yellowish and terminal segment of tarsi brownish. Abdomen with broad dark brown or black transverse bands on tergites, orange-brown on membrane between segments and on sides, ventrally brownish, terminalia black.

Head horizontal, slightly wider than pronotum, posterior margin concave. Vertex 2,5 times wider than long at median suture with a small black fovea in each half near posterior margin and closer to each other than to the eyes; sparsely covered with short fine sub-erect pilosity; median suture distinct. Genae about as long as wide,



Figs 80–89. *Diaphorina loranthe* spec. nov. 80. ♀ lateral aspect. 81. Head and thorax dorsal aspect. 82. Head frontal aspect. 83. Fore wing. 84. Antenna. 85. Tip of hind tibia and tarsus. 86. ♂ terminalia. 87. ♀ terminalia. 88. Nymph. 89. Nymph circum-anal ring and marginal setae.

touching at bases and divergent, laterally and apically rounded, sparsely covered with short sub-erect pilosity. Antennae a little shorter than width of head, with rhinaria on segments 4, 6, 8 and 9. Eyes not recessive, all three ocelli visible from above, the anterior ocellus distinctly larger than the posterior pair.

Thorax in profile distinctly convex. Pronotum a little narrower than head with normal depressions behind eyes and ocelli. Meso-episternum anteriorly produced and rounded. Fore wings about 2,5 times longer than wide, narrow at base and slightly obliquely rounded apically; hind wings with subcosta brown, other veins distinct. Metatibia with about eight black apical spines and a pair of spines on basal segment of tarsus.

Abdomen in pinned specimens apparently entirely black above (due to contraction), yellowish brown below. Terminalia rather long, dorsal valve narrow and pointed, slightly longer than ventral valve, apically pilose; ventral valve with a rounded swelling much shorter than in *D. natalensis*, narrowed apically beyond swelling and finely pilose.

MALE similar to female. Terminalia black, genital segment more posteriorly rounded than in *D. natalensis* from lateral aspect, proctiger curved on posterior margin, parallel and truncate apically; parameres somewhat lanceolate and curving inward to a point; aedeagus with shaft somewhat sinuate.

MEASUREMENTS. Length: tips of genae to wing tips ♂ 2,75–3,02, ♀ 3,11–3,53; vertex (medial) ♂ 0,17, ♀ 0,18–0,20; gena ♂ 0,14–0,15, ♀ 0,15–0,18; antenna ♂ and ♀ 0,52–0,53; pronotum (medial) ♂ 0,11–0,12, ♀ 0,12–0,14; fore wing ♂ 2,05–2,21 ♀ 2,36–2,66. Width: head ♂ 0,61–0,62, ♀ 0,67–0,70; vertex ♂ 0,41, ♀ 0,44–0,46; pronotum ♂ 0,56–0,58, ♀ 0,59–0,64; at wing bases ♂ 0,77–0,82, ♀ 0,86–0,88; fore wing ♂ 0,79, ♀ 0,97–1,03.

Nymphs of first two instars are yellow and congregate at bases of flower buds; the three succeeding instars are pale green, the same shade as the leaves on which they feed. Without dark markings but with red eyes. The eggs are yellow.

Host plant *Loranthus zeyheri* Harv.

MATERIAL EXAMINED: ♀ holotype, 16 ♂ 33 ♀ paratypes pinned, 1 ♂, 3 ♀ paratypes and nymphs on slides and 4 ♂, 10 ♀ and nymphs in alcohol, Rustenburg, Tvl., 11–15 Sept. 1971, A. L. Capener (Ac.Psy.494). Other material has been collected on the same host plant from: Sandfontein, Pretoria, Oct. 1965, M. J. Mynhard (Ac.Psy. 121); Rustenburg, 27–30 Oct. 1966, A. L. Capener (Ac.Psy.196) and Pienaar's Poort Dam, Tvl., 18 Sept. 1971, H. P. Insley (Ac.Psy.504).

***Euphalerus marginalis* spec. nov. figs 90–102**

Although Pettey (1924, 1933) described several species in the genus *Euphalerus* they were all transferred to *Diaphorina*. The present species appears to be correctly placed in *Euphalerus* and is very similar to a "*Euphalerus* sp." illustrated by Heslop-Harrison (1951) from Assam, which he neither named nor described. This species appears to be widely distributed wherever its host plant *Burkea africana* occurs.

FEMALE. Basic colour pale yellow, with dorsum brown to almost black and abdomen pale yellow to pale green. Vertex pale yellow with brown to black lateral margins and sometimes along posterior margin; genal cones yellow. Antennae pale yellow, segments 1 and 2 brownish, 9 apically brownish and 10 wholly brown or black. Eyes vitreous brown to reddish, anterior ocellus pink to red, posterior ocelli succineous,

pink or brown. Thorax usually darker laterally than medially. Fore wings very distinctive, their anal and apical margins broadly black or dark brown with colourless lunules marginally between apical veins. Anal margins of hind wings fuscous. A few specimens have been found at Rustenburg and Warmbaths in which the black margins of the fore wings are only slightly infuscated (figs 95, 96). These were taken in colonies of normal forms.

Head wider than pronotum, narrower than mesothorax, very slightly declivous. Vertex wider than long with a shallow depression medially in each half. Genae produced in same plane as vertex, contiguous almost to tips, fronto-laterally rounded to antennal sockets, apically with a few spatulate setae, and short scattered hairs dorsally; frons just visible lateral of anterior ocellus. Eyes somewhat recessive, posterior ocelli slightly raised. Antenna slightly longer than width of head, with rhinaria on segments 4, 6, 8 and 9.

Pronotum with anterior and posterior margins about parallel, with two small depressions on each side behind eye and ocellus somewhat obscure by reason of the blackness of the lateral region. Meso-prescutum and mesoscutum somewhat convex. Fore wings slightly more than twice as long as wide, broadly rounded apically, pterostigma closed and nearly a third as long as wing, R longer than M + Cu. Meracanthus well developed and apically slightly decurved; metatibia with five small black spines apically and a pair of similar spines on basal segment of metatarsus.

Abdomen with tergites 4 to 6 dorsally somewhat prominent as seen from lateral aspect. Dorsal valve of terminalia longer than ventral valve, with several long setae between spatulate tip and anal ring, tip with many short setae. Ventral valve shallow and pointed with a few scattered hairs.

MALE similar to female. Genital segment of terminalia somewhat rhomboidal; proctiger unipartite, its posterior margins rather prominent and rounded; aedeagus with distal segment about as long as sinuate shaft above basal curve; parameres densely setose, broad at base and gradually tapering to tip which is inwardly curved and black.

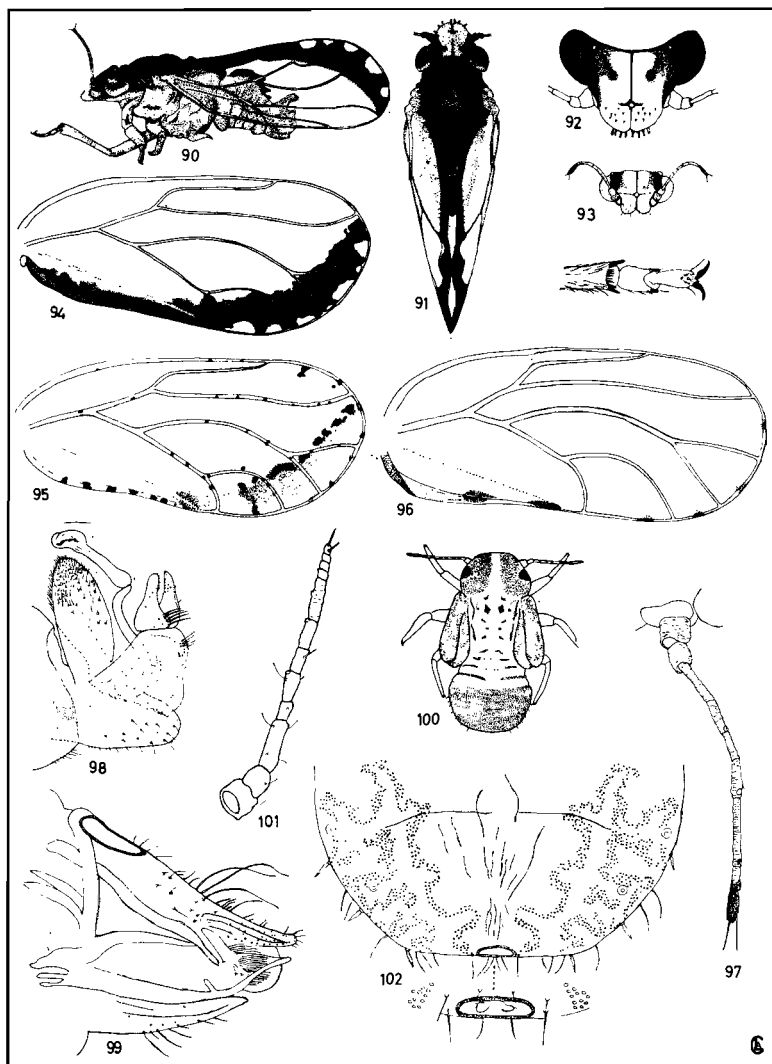
MEASUREMENTS. Length: tips of genae to wing tips ♂ 1,90, ♀ 2,08–2,11; vertex ♂ 0,20, ♀ 0,21; gena ♂ 0,08, ♀ 0,07–0,10; antenna ♂ 0,53, ♀ 0,59; pronotum ♂ and ♀ 0,08; fore wing ♂ 1,39–1,42, ♀ 1,59–1,80; hind wing ♂ 1,14, ♀ 1,36. Width: head ♂ 0,50, ♀ 0,50–0,53; vertex ♂ 0,27, ♀ 0,27–0,50; across bases of genae ♂ 0,18, ♀ 0,20; pronotum ♂ 0,41, ♀ 0,47; at wing bases ♂ 0,58, ♀ 0,62; fore wing ♂ 0,59, ♀ 0,73–0,76; hind wing ♂ 0,47, ♀ 0,51.

The brown eggs are laid between the folds of the young leaflets which fail to open and become stunted. The nymphs feed inside these folded leaflets and as in similar cases are covered with a white waxy flocculence. They are preyed upon by syrphid larvae.

Nymph, last instar, yellow with brown markings on dorsum. Head, wing sheaths and apical half of abdomen brown and small brown markings on thorax and basal half of abdomen as in fig. 100. The intensity of these markings varies, some specimens being very pale. Eyes reddish, tips of antennae and tarsal claws brown. Anal pore ring elliptical and situated at tip of abdomen; there is a complicated arrangement of small pores apically as in fig. 102; margin of abdomen fringed with a few peg-like setae and fine hairs.

Host plant *Burkea africana* Hook.

MATERIAL EXAMINED: 48 ♂, 44 ♀ and nymphs as follows: ♀ holotype, 7 ♂, 6 ♀ paratypes pinned, 7 ♂, 6 ♀ (1 var.) paratypes and nymphs on slides, Rustenburg, Tvl.,



Figs 90–102. *Euphalerus marginalis* spec. nov. 90. ♂ lateral aspect. 91. ♂ dorsal aspect. 92. Head dorsal aspect. 93. Head frontal aspect. 94. Fore wing, normal. 95. Fore wing ♀ var. 96. Fore wing ♂ var. 97. Antenna. 98. ♂ terminalia. 99. ♀ terminalia. 100. Nymph. 101. Nymph antenna. 102. Nymph circum-anal ring and pores.

24–29 Nov. 1971, A. L. Capener (Ac.Psy.546); 2 ♂, 2 ♀ paratypes pinned, Pretoria North, 5–9 Nov. 1971. (Malaise trap) E. Holm (Ac.Psy.536); 3 ♂, 3 ♀ paratypes pinned, 2 ♂, 2 ♀ paratypes and nymphs on slide, Warmbaths, Tvl., 4 Feb. 1964, P. Paliatseas (Ac.Psy.19); 1 ♂, 1 ♀ paratype pinned, Lynwood, Pretoria, 13 Feb. 1966, H. D. Brown (Ac.Psy.168); 3 ♀ paratypes pinned, Elands River Kloof, near Cullinan, 24 March 1966, A. L. Capener (Ac.Psy.176); 5 ♂, 5 ♀ paratypes pinned, Moloto, Tvl., 18 Dec. 1970, H. P. Insley (Ac.Psy.454); 15 ♂, 6 ♀ paratypes on slides, Pretoria North, Dec. 1971 (Malaise trap) E. Holm (Ac.Psy.599); 6 ♂, 9 ♀ paratypes pinned, Salisbury, Rhodesia, Nov. 1969, J. McDaniel (Ac.Psy.399) and numerous specimens in alcohol.

***Psylla loranthi* spec. nov. figs 103–112**

Differing from *P. distincta* Pettey (1933), the only species of this genus previously recorded from South Africa, in the long slender ovipositor of the female and the male terminalia.

FEMALE. General colour yellow with blackish pronotum, indistinct brownish markings on dorsum and abdomen suffused with brownish. Eyes vitreous, brownish; ocelli reddish. Antennae pale yellow, slightly brownish at tips of segments 3 to 8 and entirely so on 9 and 10.

Head vertical, wider than pronotum, slightly arcuate from above, posterior margin concave. Vertex about twice as wide as long without pilosity, median suture distinct, posterior ocelli raised and set on prominences in lateral angles; a deep fovea in each half a little anterior of ocelli and closer to each other than to the eyes; depressed in middle area on each side. Genae vertical or nearly so, longer than wide, broad at base and triangular with blunt apices, covered with long hairs. Antennae slender, nearly twice as long as width of head, with rhinaria on segments 4, 6, 8 and 9. Eyes not recessive; anterior ocellus visible from front.

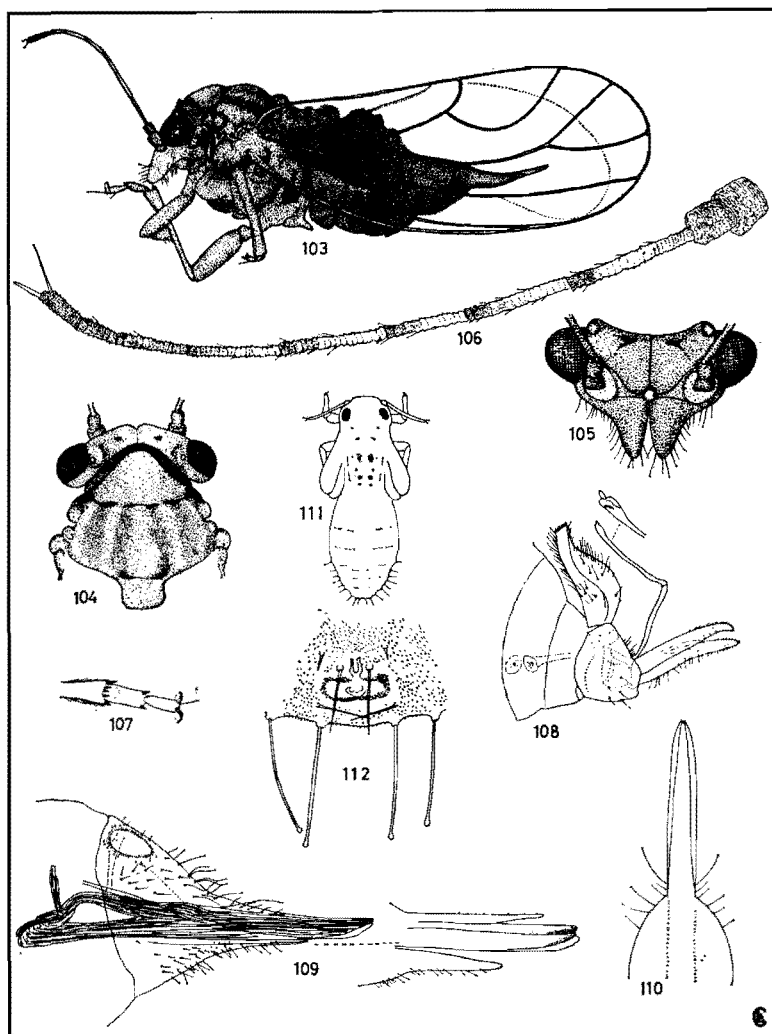
Thorax convex, without hairs. Pronotum somewhat tyre-like without distinct lateral depressions. Fore wing about 2.5 times longer than wide, semi-transparent, veins yellowish, pterostigma colourless, anterior margin of costa + subcosta fringed with short hairs. Meracanthus rather long, apex of hind tibia with six black spines and a pair of similar spines on first segment of tarsus.

Terminalia rather shortly sub-conical with long ovipositor, upper and lower valves terminating in long narrow points covered with short hairs.

MALE similar to female. Terminalia with proctiger longer than rhomboidal genital segment, from lateral aspect rather narrow with posterior margin curved and somewhat sinuate to truncate tip. Aedeagus long and slender, distal segment about as long as shaft and only slightly enlarged apically. Parameres as long as proctiger, slender and finger-like, apically tapering and inwardly curving to fine black points.

MEASUREMENTS. Length: to tips of fore wings ♂ 2.66–2.84, ♀ 2.72–3.02; to tip of terminalia ♂ 1.56–1.66, ♀ 2.14–2.48; fore wing ♂ 2.11–2.24, ♀ 2.14–2.69; hind wing ♂ 1.66–1.78, ♀ 1.84–2.08; vertex ♂ and ♀ 0.18–0.20; gena ♂ and ♀ 0.15–0.20; pronotum ♂ and ♀ 0.11–0.14; antenna ♂ 1.05–1.17, ♀ 1.09–1.21. Width: head ♂ 0.67–0.70, ♀ 0.70–0.74; vertex ♂ 0.38–0.42, ♀ 0.41–0.46; gena at base ♂ and ♀ 0.11–0.14; pronotum ♂ and ♀ 0.53–0.58; at wing bases ♂ 0.77–0.82, ♀ 0.82–0.85; fore wing ♂ 0.91–0.94, ♀ 0.97–1.08.

The nymphs are somewhat elongate, pale yellow with basal abdominal segments orange. In the last instar the circum-anal ring is somewhat elliptical and



Figs 103–112. *Psylla loranthi* spec. nov. 103. ♀ lateral aspect. 104. Head and thorax dorsal aspect. 105. Head frontal aspect. 106. Antenna. 107. Tip of hind tibia and tarsus. 108. ♂ terminalia. 109. ♀ terminalia lateral aspect. 110. ♀ terminalia dorsal aspect. 111. Nymph. 112. Nymph circum-anal ring and marginal setae.

surrounded by rather dense fine spinules; the marginal secta-setae are slender with clubbed tips. The long ovipositor makes it possible for the female to penetrate the calyx of the flower and lay her eggs on the style. The nymphs complete their development inside the flower, where young nymphs have been found before it has opened.

Host plant *Loranthus zeyheri* Harv.

MATERIAL EXAMINED: ♀ holotype, 19 ♂, 34 ♀ paratypes pinned, 10 ♂, 10 ♀ paratypes and nymphs on slides and 10 ♂, 10 ♀ and nymphs in alcohol, Rustenburg, Tvl., 27–30 Oct. 1966, A. L. Capener (Ac.Psy.195). This species was also taken at the same locality in Nov. 1967 (Ac.Psy.229) and at Umkomaas, Natal, 20 Oct. 1969 (Ac.Psy.386) on *Loranthus kraussianus* Meisn., where the nymphs were congregating just below the stamens of unopened flowers. No nymphs were found in open flowers.

TRIOZINAE

Trichochermes insleyae spec. nov. figs 113–123

This genus has not previously been recorded from South Africa.

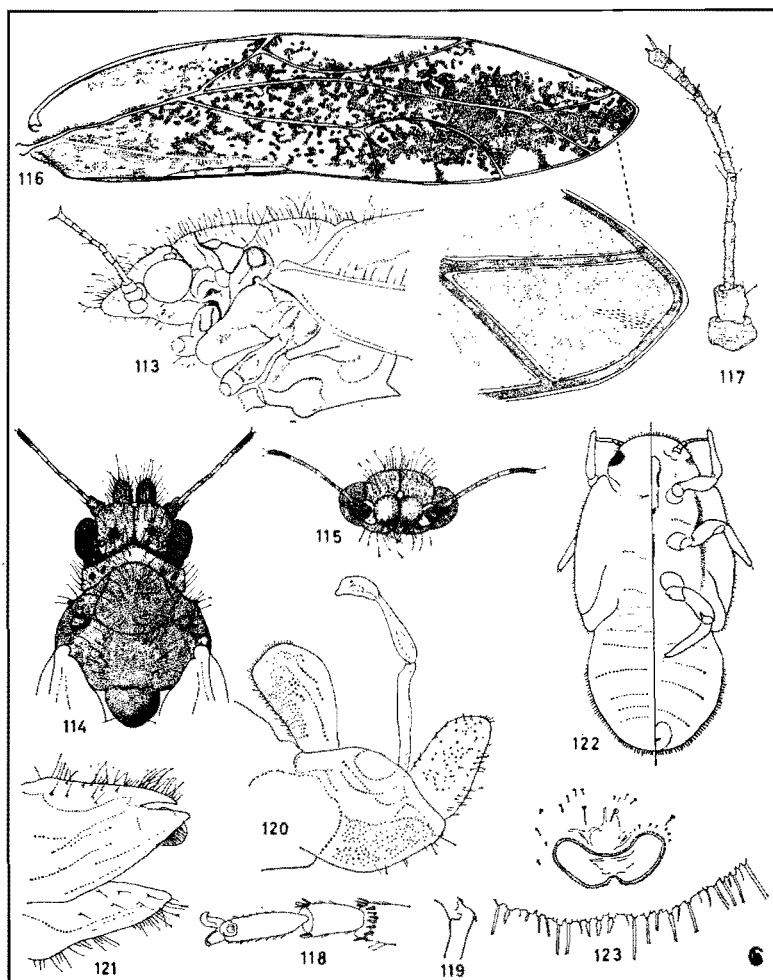
FEMALE. General colour dark brown to black. Head including genal cones very pale brownish, median suture and margins of antennal sockets dark brown. Antennae with segments 1 and 2 and apices of 4, 6, and 8 brown, 9 and 10 black with white terminal bristles. Eyes reddish brown; ocelli reddish. Dorsum dark brown to black, sides of thorax largely dark brown, abdomen brown to black with genital capsule pale brown. Fore wings largely amber-tinted, densely covered with small black spots arranged more or less as in fig. 116, and to the naked eye presenting an overall black appearance. Basal segments of legs brownish, tibiae and tarsi yellowish.

Head horizontal, slightly wider than pronotum but narrower than mesothorax, pubescent with long hairs, posterior margin obtusely emarginate. Vertex about twice as wide as long, median suture distinct, a large depression in each half and slightly elevated to posterior ocelli. Genal cones separated from vertex by distinct sutures, slightly below plane of vertex, cylindrical with bluntly rounded apices, about parallel but not touching on inner margins and bearing long hairs. Antennae about as long as width of head with rhinaria on segments 4, 6, 8 and 9. Eyes not recessive; all three ocelli visible from above.

Thorax shallowly convex, sparsely pubescent with long erect hairs. Prothorax with a pair of small depressions on each side behind eye and ocellus. Fore wings nearly four times longer than wide, apically acute, costal margin weakly curved, without pterostigma, R diverging from M slightly beyond cubital branch, Rs curving strongly inwards and almost touching M then curving to C + Sc about halfway between R1 and M 1+2. Spinules in apical cells as in *Trioza*. Meracanthus well developed; hind tibia with a small external basal tooth and apically somewhat dilated with three minute black spines (one inner and two outer), lacking spines on tarsus.

Abdomen with sparse long hairs ventrally; terminalia with dorsal and ventral valves broad basally and tapering, sub-equal, with sparse setae.

MALE similar to female. Terminalia with proctiger unipartite, from lateral aspect posteriorly curved and broadly rounded apically; aedeagus with distal enlargement shaped something like a bird's head; parameres broader at base than proctiger and about as long, tapering slightly apically and inwardly curved. When walking the adults have a peculiar habit of swaying strongly from side to side.



Figs 113–123. *Trichohermes insleyae* spec. nov. 113. Head and thorax lateral aspect. 114. Head and thorax dorsal aspect. 115. Head frontal aspect. 116. Fore wing. 117. Antenna. 118. Tip of hind tibia and tarsus. 119. Base of hind tibia. 120. ♂ terminalia. 121. ♀ terminalia. 122. Nymph. 123. Nymph circum-anal ring and marginal setae.

MEASUREMENTS. Length: tips of genae to wing tips ♂ 3,14–3,47, ♀ 4,09–4,29; fore wing ♂ 2,12–2,63, ♀ 2,96–3,08; vertex at median suture ♂ 0,17, ♀ 0,18; gena ♂ 0,13, ♀ 0,14; antenna ♂ 0,58, ♀ 0,62–0,68; prothorax (in middle) ♂ 0,15, ♀ 0,19; prothorax (lateral) ♂ and ♀ 0,12. Width: head ♂ 0,49–0,52, ♀ 0,55–0,58; vertex ♂ 0,29–0,33, ♀ 0,33; gena ♂ and ♀ 0,10; prothorax ♂ 0,35, ♀ 0,46; fore wing ♂ 0,59–0,70, ♀ 0,76–0,80.

Host plant *Ziziphus mucronata* Willd.

The eggs are apparently laid between the unopened folded leaves of the host plant which become stunted and thickened, forming three chambers in trefoil pattern. In these the nymphs live throughout the winter covered in fine white flocculence as recorded for other species in this paper. They emerge as adults in the spring. The nymphs are pale yellow without markings. They are somewhat elongate and the margins of the vertex, wing-pads and abdomen are fringed with setae. The circum-anal ring in the last instar is somewhat kidney-shaped with an indentation on the posterior margin (fig. 121).

MATERIAL EXAMINED: ♀ holotype, 16 ♂, 29 ♀ paratypes pinned, 2 ♂, 3 ♀ paratypes on slides, Rustenburg, Tvl., 15 Sept. 1971, A. L. Capener (Ac.Psy.503); 3 ♂, 5 ♀ paratypes pinned, Rietondale, Pretoria, 25 Sept. 1971 (Ac.Psy.505); 1 ♂ paratype pinned and nymphs in alcohol, Hartbeespoort Dam, 28 Sept. 1969 (Ac.Psy.379) and young nymphs in alcohol, Irene, Tvl., 13 April 1969, H. P. Insley (Ac.Psy.356). I have much pleasure in dedicating this species to Miss H. P. Insley who first discovered it in its nymphal stage in 1969.

ACKNOWLEDGEMENTS

In presenting this, my final paper on southern African Psyllidae, I should like to express my thanks to Dr V. F. Eastop, Dr M. Loginova and Mr D. Hollis for their help, co-operation and advice.

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